

FACILITY AND FIRE SAFETY SURVEY

OF

999 E STREET BUILDING (DC0316ZZ)

**999 E STREET, NW
WASHINGTON, DC**

Prepared by: Bauer Environmental Consultants, LLC

Item 0004 Of Task Order No. P-11-99-DC-0005

FSES ANALYSIS RESULTS

	Fire Control	Egress	General Firesafety
Provided	4.5	1.5	6.0
Required	7.5	5.0	6.0
Equivalency	-3.0(N)	-3.5(N)	0.0(Y)

FINDINGS BY RAC LEVEL

RAC 1	0
RAC 2	0
RAC 3	0
RAC 4/5	9

SURVEY DATE: NOVEMBER 3, 1998

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OF

999 E STREET BUILDING (DC0316ZZ)

**999 E STREET, NW
WASHINGTON, DC**

1.0 INTRODUCTION

Under Contract No. **GS-11P98MJD0121**, with the General Services Administration's (GSA) Safety and Environmental Management Division, **Bauer Environmental Consultants, LLC (BEC)**, is tasked to provide Facility and Fire Safety and Occupational Health and Safety Surveys of Federally occupied buildings in the National Capital Region.

This report details the results of the Facility and Fire Safety Survey of 999 E Street, NW (DC0316ZZ), that was conducted as **Item No. 0004 of Task Order No. P1199DC0005**. The survey was conducted on **November 3, 1998**, by **Jeffrey M. Bauer, PE, CIH, CSP** of **BEC** and **Richard L. Klinker, PE** of **Klinker and Associates, Inc.**

There were a total of 9 findings identified as a result of this survey. There were a total of fourteen RAC 4/5 findings recorded from the previous (July 1994) survey, of which 8 are now considered closed.

The total square footage surveyed was 115,839 square feet.

OPEN FINDINGS SUMMARY:

Finding Number	Description	Status
L-11-89-147/001 -	Exit discharge protection	Open
L-11-89-147/002 -	Building is not fully sprinklered	Open
L-11-89-147/003 -	Provide OS&Y valves-tamper switches	Closed
L-11-89-147/004 -	No sprinklers 3rd fl. Computer room	Open
L-11-89-147/005 -	No landing-ctr. stair to garage	Open
L-11-89-147/008 -	Fire alarm lacks backup power	Open
L-11-89-147/009 -	Need control valve/flow switch-8 th floor	Open

Minor Findings (RAC 4/5) are at Appendix A.

The building profile **and layout** depiction is at Appendix B.

The FSES analysis is at Appendix C.

There were no findings with a RAC of 1, 2, or 3 recorded.

2.0 SURVEY METHODOLOGY

2.1 Opening Conference

The **BEC** survey representatives arrived on-site at 999 E Street, NW in Washington D.C., and an opening conference was held with **Mr. Art Elkins, Building Engineer**. The representatives reviewed the purpose of the visit and the procedures to be used during the conduct of the survey effort.

2.2 Applicable Standards

During the conduct of the inspection, the following standards and guidelines were used to evaluate the fire safety conditions at the aforementioned facility.

- National Fire Protection Association (NFPA) Codes.
- Code of Federal Regulations, 29CFR1910 - General Industry Standard
- BOCA National Building Code.
- PBS/PQ-100 Facilities Standards for the Public Buildings Service

2.3 Inspection Procedures

The actual walk-through survey consisted of observing the condition of facilities, inspecting the condition of equipment, the storage of materials, and any operations in progress that may affect the physical facility or GSA owned or leased equipment, plus the layout of the equipment/materials in the facilities as they relate to fire safety. In addition, a review of the buildings fire safety features, e.g., fire detection/alarm systems, fire suppression systems (both fixed and portable), fire divisions and doors, emergency lighting and exit lights, and means of egress were conducted. Where potential hazards were identified, these were brought to the attention of the appropriate facility personnel and discussions of possible remedies were held.

2.4 Description of Facilities

2.4.1 999 E Street, NW, Washington, D.C.

999 E Street, NW is a nine-story office building, with a penthouse and one basement level. **The original building was constructed in the 1930's, with a building-wide renovation completed in 1985, which also included the addition of the present back section of the building. It was stated that any asbestos-containing materials present in the original structure were removed during this later renovation project.** The building is considered a Business Occupancy per NFPA 101. A parking garage is located on the B-1 level. Each floor of the building has a gross floor area of **23,500 SF with** each floor of the building divided into two fire areas (east and west). The Hard Rock Cafe is separated from the leased space by a two-hour fire separation on the 2nd floor. The building **has reinforced concrete roof, floors and columns.** There are some areas in the building in which the floor/ceiling assemblies were observed to be concrete slab on metal decking which is supported by steel beams. The steel beams are protected by structural fireproofing material. The structure of the building appears to qualify as at least Type II (222) construction as defined by NFPA 220, and Type 2B as defined by the BOCA National Building Code. This will be used for this analysis.

Presently, the building is approx. 60% Federally-occupied with the tenant agency being the Federal Elections Commission. A new 10 year lease was recently completed for this space. In addition, the building is presently undergoing more modifications, particularly to the firesafety and backup power systems, with completion scheduled for Spring 1999. Automatic sprinkler protection will be provided throughout the building and the fire pump will be replaced. This is discussed in Section 3.2 in more detail.

3.0 RESULTS

Highlights of the facility and fire safety survey are contained in this section. Section 3.1 highlights the facility safety findings, Section 3.2 highlights the fire safety findings, while **Section 3.3 highlights the environmental management findings.** Many of the findings associated with these categories are described here as well as in Appendix A.

3.1 Findings - Facility Safety Survey

There was one new facility safety finding (RAC 4/5) identified as a result of this survey. There were three minor findings recorded from the previous (July 1994) survey, all of which are considered closed.

3.1.1 Walking/Working Surfaces

The walking and working surfaces in the areas of the facility observed consist of cut stone and

terrazzo in the lobby and carpet in the halls and office spaces. Vinyl tile was used in support areas such as photocopy rooms and storage areas. Stairs were concrete and iron. The bathrooms contained ceramic tile. Mechanical spaces and shops were of painted concrete.

3.1.2 Electrical Systems

The building is equipped with a standard three wire grounded electrical system and the continuity of the ground was confirmed during the survey. All electrical panels observed appeared to be properly sized, labeled and accessible, with no unused openings. There is one electrical closet on each floor. In room 825 is a large copying operation, where a 220 volt cord to the outlet has numerous paper products and wastes lying by the outlet. Clean up this debris.

3.1.3 Machine Guarding

Fixed machinery in this facility is that associated with the air handling equipment. Pulley equipment in the penthouse mechanical room. The government tenant personnel are not allowed in the mechanical rooms which are locked at all times. Also in Room 825, there is a heavy duty paper cutting machine in this room that requires a warning label to keep hands free of the cutting area.

3.1.4 Emergency First Aid Equipment

There was a first aid kit available in the room next to the building engineer's office. There was also a nurses station located in the government tenant space. There was no emergency eyewash or shower associated with the chemical treatment of the cooling tower water.

3.1.5 Material Handling & Storage

There is no unique material handling and storage at this location. Materials were office related furniture, office supplies and equipment.

3.1.6 Noise

The two chillers in the mechanical room were operating at the time of the survey and had **elevated** noise levels. The government personnel are not allowed in the mechanical rooms which are locked at all times. Noise levels in the government spaces were measured at below 60 dBA.

3.1.7 Illumination

The lighting criteria was obtained from 41 CFR 101-20-107, Energy Conservation Rule, Federal Property Management Regulations. The required light levels are:

- 50 Foot candles for work surfaces (taken to mean areas where reading is required)

- 30 Foot candles for work areas (taken to mean areas not requiring reading)
- 10 Foot candles for non-work areas (taken to mean aisles, corridors, etc.)
- 5 Foot candles for walking surfaces.

Lighting in the common areas consisted of 2 light "U" tubes and 4 tube fluorescent and some incandescent light fixtures. Lighting levels throughout the facility were found to be adequate, **ranging from 22-86 Foot candles.**

3.2 Findings - Fire Safety Survey

There were a total of 7 firesafety findings identified as a result of this survey. There were a total of eleven findings (RAC 4/5) recorded from the previous (July 1994) survey, of which 5 are now closed.

There are a number of fire safety findings which concern the basic fire protection in this building. Major issues such as the lack sprinkler protection throughout the building and the lack of exit discharge protection for the first floor lobby were identified in previous surveys, but have not been corrected. Mostly minor findings with respect to the means of egress, fire separations and the sprinkler system were identified as a result of this survey.

3.2.1 Means of Egress

The 999 E Street, NW building has two enclosed stairs, **known as Stair #1 and Stair #3. Stair #1 is 42" wide; Stair #3 is 43" wide. Both stairs have an 11" tread depth, 7" riser, and handrails 33" above the treads.** The stairs have an exit capacity of **283** persons. The occupant load of the building is approximately **235** persons per floor based on one person per 100 square feet, therefore the exit capacity is sufficient per NFPA 101. The stairs are separated by a straight line distance of **70** feet, the maximum building diagonal is approximately **258** feet, which yields a straight line separation distance approximately **27%** of the maximum building diagonal. Therefore, the exit separation is not adequate per NFPA 101. However, The building is separated into two fire areas by a two hour fire separation. The cross corridor doors are 1.5 hour fire doors and are held open with magnetic hold open devices, which can qualify as horizontal exits. Upon actuation of the fire alarm system the door close automatically. Because of the separate fire areas no finding was recorded for the stair separation distance since the risk is minimized. Exit access is provided by a circulating corridor system on most floors. No dead end corridor conditions in excess of 50 feet and no common paths of travel in excess of 75 feet were observed. **Stair #1 discharges into a protected corridor which discharges to the outside of the building. Stair #3 discharges into the entrance lobby.** Several findings from previous surveys are still open. **Stair #3** discharges to an unprotected lobby. Complete sprinkler protection of the level of exit discharge was previously recommended. There is no landing where the center opens into the parking garage. It was recommended that a landing be installed which is a horizontal distance at least equal to the width of

the door.

Plans are being made to upgrade the fire protection within the building starting in the Spring of 1999. Automatic sprinkler protection will be provided throughout the building and will include a new fire pump. A new fire alarm system will be provided. The separation distance between the two stairs will be satisfactory when the building is fully sprinklered, so the present fire separation will be removed on each floor.

3.2.2 Automatic Sprinkler and Standpipe System

Partial automatic wet pipe sprinkler protection is provided at various locations of the building. Partial wet pipe systems are located on the 1st, 2nd, and 8th floors. It was reported that a project to provide complete sprinkler protection in the building is planned for **1999**. The parking garage on the basement level is protected by a dry pipe system, which utilizes a 6" Reliable Model D dry pipe valve. Valves for the sprinkler system are generally OS&Y valves which are chained and locked in the open position. **The fire department siamese connection is located on the E Street side of the building. Grinnell Fire Protection tests the automatic sprinkler systems and fire pump on an annual basis. The last tests were conducted in September 1998.**

Several minor findings were recorded with respect to the sprinkler system. No check valve was observed in the fire department connection on the E Street side of the building. It is recommended that a check valve with a ball drip be installed between the siamese and the point of connection to the sprinkler system. Storage in Room 111 is generally up to the level of the sprinklers. It is recommended that 18" vertical clearance be provided between the top of storage and the sprinklers. The partial sprinkler system for the library on the 8th floor has no inspector's test connection. It is recommended that an inspector's test connection be installed at a convenient location such that the flow switch for this system can be tested. The shutoff for the partial sprinkler system in the library on the 8th floor is above the ceiling and its location is not marked. Provide a sign on the ceiling tile indicating the location of the sprinkler shutoff. **Sprinkler protection in the 8th floor computer room utilizes Central Omega sprinklers. These sprinklers have proven to be unreliable and are no longer being manufactured. They need to be replaced.**

An electrically driven **Peerless** fire pump is provided on the basement level to boost the pressure in the standpipe and sprinkler systems. The fire pump controller is reportedly supervised by the fire alarm system. The fire pump is reportedly tied to the emergency generator for backup power.

There is a 4" standpipe riser in both stairs. There are 2-1/2" outlets in each stair at each floor. The fire department siamese connection is located on the E Street side of the building.

3.2.3 Fire Separations

The fire separations provided for the building are the separation of the stair enclosures, elevator shafts, air shafts, pipe chases, the separation of the building into two fire areas, and two computer

room enclosures. The vertical enclosures such as the stairs, elevator shafts and pipe chases along with the horizontal fire separation on each floor appear to be of construction equivalent to two hour fire resistance. The stair doors are 1.5 hour fire doors. The openings in the horizontal fire separation are 1.5 hour fire doors held open with magnetic hold open devices. These doors automatically close upon actuation of the building fire alarm system. A two hour separation is also provided for the Hard Rock Cafe on the 2nd floor. The two computer room enclosures for Rooms 301 and 836 appear to be one hour fire separations. Four minor findings were recorded with respect to fire separations. There are unsealed penetrations to the enclosure of Room 301. It is recommended that all piping and conduit penetrations be sealed with a U.L. listed fire stopping material. The doors to 839 and 840 are openings in the one hour separation of the computer room and have no self closers. It is recommended that self closers be installed. The fire rated access panel to the exhaust shaft in Room 409 does not self close and latch. It is recommended that the self closer be adjusted such that the access door self closes and latches. There are typically unsealed penetrations between the electrical rooms and the adjacent pipe chases. It is recommended that these penetrations be sealed with a U.L. listed fire stopping material.

3.2.4 Fire Extinguishers

Fire extinguishers are provided in the corridors in cabinets on hangers in the occupied space. There is typically 4A:60B:C extinguisher in each cabinet in the corridor. The spacing of extinguishers appears to be sufficient per NFPA 10. No findings were recorded with respect to fire extinguishers.

Extinguishers are generally in good condition and are serviced on an annual basis by Ace Fire Extinguisher **with last service in June 1998.**

3.2.5 Emergency Lighting and Power

Emergency lighting is provided throughout the building in the corridors, office suites and stairs by fluorescent fixtures which are tied to the emergency circuit. The emergency lighting circuit is tied to the emergency generator which is located on the parking garage level. No findings were recorded in this area.

A 135 kW emergency generator is provided on the roof for the fire alarm, fire pump, emergency lights, exit signs, and one elevator at a time. The generator has a 3000 gallon diesel fuel tank located at the rear of the building in a vault. The generator is scheduled to be replaced with a new unit when the new fire pump and complete automatic sprinkler protection is provided for the building. The generator is tested each Monday for 20 minutes under no load. It is tested annually by Lerch Bates under full load conditions when the elevators are inspected.

3.2.6 Exit Signs

There are internally illuminated exit signs provided in the corridors, office suites and stairs. The exit signs are generally visible throughout the building. Backup power for the exit signs is provided by the emergency generator. No findings were recorded with respect to exit signs.

3.2.7 Alarm System

The fire alarm system provided for this building consists of a Simplex 2001 panel and local panels in computer rooms 836 and 301. It is reported that all of the sub-panels are tied to the main fire alarm panel and all initiating devices actuate the horns in the building. Initiating devices consist of manual pull stations in the corridors near the stairs, **exits and in corridors. Sprinkler** waterflow switches **are provided for each small sprinkler system and each dry pipe valve. Smoke detectors are provided in the** elevator lobbies, **HVAC systems, and computer rooms. Fixed** temperature heat detectors **are provided in the** storage areas, **stairwells, electrical rooms, telephone rooms, mechanical rooms, and boiler room.** Supervisory conditions for the fire pump and valve tampers are also monitored by the fire alarm system. The main fire alarm is monitored by Kastle. The main fire alarm panel is provided with battery backup. The fire alarm initiates elevator recall, zoned smoke control, and drops power to the magnetic hold open devices for the cross corridor fire door throughout the building. The **notification** appliances throughout the building are bells and strobes. Actuation of any initiating device sounds a general alarm throughout the building. It is reported that Simplex maintains the fire alarm system on an annual basis. No findings were recorded with respect to the fire alarm system.

There are 4 elevators in the building. They are equipped with firemans capture and automatic recall systems. The primary floor for recall is the first floor. The secondary floor for recall is the second floor. Smoke detectors are provided in each elevator lobby. The elevators are recalled upon any fire alarm. The telephones in the elevator cabs are operational and are connected to Kastle central station service.

3.2.8 Documentation of Testing

It was reported that the fire alarm and sprinkler systems and the fire pump are tested on an annual basis. Documentation of testing is available on-site.

3.2.9 Fire Safety Summary

999 E Street, NW has a number of issues concerning basic fire protection that require attention. Full sprinkler protection of the building will correct two of the previously identified findings for the lack of sprinklers in the building and the unprotected level of exit discharge. A project to provide sprinklers for this building is scheduled for **1999**. The minor findings identified as a result of this survey do not appreciably increase the risk to federal occupants.

A fire originating on any floor of Federal occupancy would not be automatically controlled or extinguished. The fire could present a serious impediment for the occupants in evacuating the building via the stairs, although this concern is alleviated somewhat by the presence of the existing horizontal exits on each floor. A fire on the first floor would not be automatically controlled or extinguished and could affect the safe use of either stair.

A life safety analysis from a fire in the building was performed using NFPA 101A and is included at the end of this report. That analysis indicates that the building fails the analysis. It fails from fire control and egress standpoints, but passes from a general firesafety standpoint.

3.3 Findings - Environmental Management

There were no environmental findings identified as a result of this survey.

3.3.1 Air Pollution Control

The facility does not have either an incinerator or any fume hoods. No other operations were noted or reported that could serve as significant emission sources.

3.3.2 Asbestos Abatement

Asbestos containing materials (ACM) are not present in this facility. The facility reportedly has had all asbestos removed during a renovation in 1985. One case of asbestos was later found in the remote pipe chase but has also been removed. No asbestos appearing materials were observed during the survey.

3.3.3 Water Pollution Control

The facility is connected to the Washington Sanitary Sewer Commission waste water treatment system and does not discharge any materials directly to streams or storm water runoff systems. No other operations were noted or reported that could serve as significant water pollution emission sources.

3.3.4 Nonhazardous Waste Management

There is recycling for high grade white paper, cans and glass. Routine office trash is removed nightly by cleaning personnel and deposited in a dumpster where it is removed regularly.

3.3.5 Hazardous Waste Management

The government tenants do not generate any hazardous waste at this facility.

3.3.6 Underground Storage Tanks

There is an underground storage tank reported in association with this facility. This tank stores 3,000 gallons of diesel fuel used as a back fuel supply for the two natural gas boilers in the mechanical spaces.

3.3.7 PCB Management

There are no known PCBs at this location. There are no "dry" transformer units in the electrical closets or in the mechanical spaces. There is also a main power distribution panel which receives power from the PEPCO transformer unit located below grade outside of the building.

3.3.8 Pesticide Control

Pesticide service is provided on an as necessary basis and is applied by a licensed applicator.

3.3.9 Special Occupancies

There are no special occupancies in this building. The government spaces are used for office and office related operations only.

3.3.10 Environmental Management Summary

In summary, the environmental practices in this building are in compliance with GSA criteria. The building and/or its operation does not pose any major environmental concerns.

3.4 Findings - Indoor Air Quality

There were no indoor air quality findings identified as a result of this survey. No IAQ complaints were noted or reported.

3.4.1 Ventilation

Ventilation to the office spaces in the building is provided by fans located in the two air handling units located on each floor. These fans force air into the duct system located in the plenum area above the offices in the core portion of the building. There are also perimeter (fan coil) units around the outer portions of the building which have fans in them that take room air, pass it over the fan coils and exhausts it back into the room/office space. These units circulate the air to the outside office spaces and contribute to the ventilation of the core portion of the building. **Carbon Dioxide (CO₂) levels measured in the range of 627-812 ppm, indicating good air exchange.**

3.4.2 Complaints

The Building engineer reported no active IAQ complaints.

3.4.3 Potential Contamination Sources

There were no potential sources of indoor air contamination identified as a result of this survey.

3.4.4 Maintenance

Maintenance of the HVAC system equipment is performed as part of a PM system. The cut fabric poly mesh filters are changed every three months or more often if necessary. There is also a second set of filters located in the fan coil units which are changed twice per year.

3.4.5 Measurements

Instrumentation and Calibration

- **Carbon dioxide (CO₂), temperature and relative humidity readings were measured with a Direct Reading Instrument (DRI) – Metrosonics aq-5000 model. This instrument was calibrated with the use of a calibration kit consisting of nitrogen and pre-measured CO₂ concentration gas (1,000 ppm) tanks to set the zero and span.**
- **Light levels were measured with a Sekonic model 246, and was zero-adjusted before use.**
- **Carbon Monoxide (CO) readings were measured with a Direct Reading Instrument (DRI) – Metrosonics aq-5000 model. This instrument was calibrated with the use of a calibration kit consisting of a pre-measured CO concentration (35 ppm) gas tank to set the zero and span.**
- **Sound levels were measured with a Sound Level Meter manufactured by Radio Shack, Cat. No. 33-2050, and was factory calibrated before purchase. It can be operated in A or C Weighted and Fast or Slow Response settings.**

See the following table for the environmental conditions mentioned above for various areas of the building, as applicable.

INDOOR AIR QUALITY READINGS

Date: 11/3/98

LOCATION	TIME	CO2 (ppm)	TEMP (°F)	RH (%)	LIGHT (FC)	CO (ppm)
902	11:06	725	72.1	36.8	44	
913	11:11	756	72.3	37.1	33	
922	11:15	743	72.2	36.5	24	
810	11:25	635	73.1	34.5	60	
813	11:28	645	74.1	37.1	45	
8 th Computer	11:33	634	72.1	35.5	55	
736	11:47	627	69.3	37.2	34	
749	11:53	725	70.3	37.9	44	
725	11:58	734	72.1	37.6	25	
622	12:05	768	72.4	37.4	26	
631	12:10	756	72.8	36.8	33	
640	12:13	769	73.1	38.2	68	
511	12:20	789	74.1	39.2	80	
532	12:25	801	74.3	38.9	65	
505	12:30	802	73.7	39.4	86	
403	12:36	782	72.1	40.2	55	
432	12:40	812	73.2	40.1	44	
412	12:44	803	73.6	39.2	38	
302	12:48	745	72.1	38.6	22	
3 rd Computer	12:55	724	71.1	36.7	60	
314	13:04	765	72.1	36.4	45	
202	13:10	786	71.1	39.3	25	
219	13:16	761	70.9	38.4	35	
234	13:21	751	70.5	36.9	60	
115	13:26	782	70.6	38.9	40	
Elections lobby/rm	13:50	732	70.2	37.9	40	
102	13:55	762	70.4	37.6	30	
Parking level	14:07					0

APPENDIX A
MINOR FINDINGS

DRAFT _____

FINAL X

MINOR SURVEY FINDINGS REPORT

TO: **Triangle SDT**

DATE: **11/3/98**

FROM: **Bauer Environmental Consultants, LLC**

BUILDING NAME/LOCATION: **999 E Street, NW Washington, DC**

PRINTED NAME OF RECIPIENT: **Harry Simpson, GSA**

SIGNATURE OF RECIPIENT: _____

The following list of items has been identified for correction as a result of a Safety and Environmental Management Survey conducted on the date(s) indicated above. Please indicate the corrective action taken and provide your name in the space provided. Please forward the completed form to the Safety and Environmental Management Division (WPX). Please complete form within 60 calendar days of receipt of final.

FINDING #: 1

There is no check valve in the fire department connection on the E Street side of the building. Provide a check valve with a ball drip between the siamese connection and the point of connection to the sprinkler system.

CORRECTIVE ACTION: _____ DATE: _____ BY: _____

FINDING #: 2

There are unsealed penetrations to the enclosure of the computer room (301). Seal penetrations with a U.L. listed fire stopping material.

CORRECTIVE ACTION: _____ DATE: _____ BY: _____

FINDING #: 3

The fire rated access panel to the exhaust shaft in Room 409 does not self close and latch. Adjust

hardware such that this access panel self closes and latches.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____4_____

Unsealed penetrations between the electrical closets and the pipe chases (typical). Seal all penetrations with a U.L. listed fire stopping material.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____5_____

There is no inspector's test connection for the flow switch located in the library area on the 8th floor. Provide an inspector's test in a convenient location such that this flow switch can be tested.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____6_____

The sprinkler shutoff valve or the sprinkler system is above the ceiling and its location is not marked. Provide a sign on the ceiling tile to identify the location of the sprinkler shutoff valve.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____7_____

The doors to the computer room (839 and 840) are openings in a fire barrier and have no self closers. Provide self closers for these two doors.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____8_____

In room 825 is a large copying operation, where a 220 volt cord to the outlet has numerous paper products and wastes lying by the outlet. Clean up this debris. Also, there is a heavy duty paper cutting machine in this room that requires a warning label to keep hands free of the cutting area.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____8_____

Replace the 9 Central Omega sprinklers in the 8th floor computer room with new sprinklers.

CORRECTIVE ACTION: DATE:_____ BY:_____

FINDING #:____9_____

Inspect, test and maintain the fire protection systems in accordance with NFPA requirements. This is needed for the fire pump, standpipe and automatic sprinklers each quarter in accordance with NFPA 25 and the fire alarm system semi-annually in accordance with NFPA 25.

CORRECTIVE ACTION: DATE:_____ BY:_____

APPENDIX B

BUILDING PROFILE AND LAYOUT DEPICTION

General Building Information

1. Building Name:
999 E Street Building
999 E Street, NW
Washington, DC
2. Building Number: DC0316ZZ
3. Building Contact: **Art Elkins, Bldg. Engineer**
4. Number of stories of building:
Above grade: 9 (Plus a Penthouse)
Below grade: 1 (Parking Level)
5. Lease information (if applicable):
Lease expiration date: **New 10 year lease**
Lessor : American Medical Association
6. Date of previous survey: **July 1994**
7. Previous findings not corrected: See Paragraph 1.0
8. Floors the Federal Government occupies: All
9. Height of building above the lowest level of fire department access (in feet):
 - a. To highest Federally occupied floor: Approx. 108 feet
 - b. To the roof of the building: Approx. 120 feet
10. Types of Federal occupancies on each floor:
 - a. NFPA 101 Classifications: Business
 - b. BOCA Use Group: B
 - c. Mixed Use and Occupancy as Per BOCA (313): N/A
11. Types of non-Federal hazardous occupancies on each floor:
Cafeteria on 1st & 2nd floors
12. Approximate gross area per floor: **23,500 SF** per floor
13. Number of Federal occupants: **500+**
Agency(ies): Federal Elections Commission

Fire Protection

14. Construction Type (BOCA Classification): Type 2B
Based on (a, b, or c below): a and c.
 - a. Describe floor/ceiling construction: Reinforced concrete and slab on protected beams.
 - b. Describe roof construction: Rubber membrane on concrete.
15. Height and area modifications:
Percentage reduction in area due to height (501.4): N/A
Percentage increase for open perimeter (502.2):
Increase for sprinkler protection (area and height - 502.3):
Allowable height and area:
16. Location of significant fire risks that expose Federally occupied floors: None
17. Describe fire-rated subdivision of floors: East and West fire areas on each floor
18. Fire suppression capability (describe as listed below):
 - a. Sprinklers - location(s): Wet-pipe on basement level, partial 1st fl., partial 2nd fl., and partial on 8th floor
 - b. Waterflow alarm(s), type and location: Vane Flow switches
 - c. Control valves, type and typical location: OS&Y
 - d. Valve supervision, type and typical location: Chain and lock
 - e. Standpipe - riser size, location, and number: 4" riser in stairwells
 - f. Location(s) and manufacturer/model of fixed CO₂, dry chemical and/or halon fire suppression systems: **None**
 - g. Fire pump data: **Unknown**
Manufacturer: Peerless
Supply static pressure: 70 psi
Discharge static pressure: 115 psi
Separate controller for fire pump and jockey pump? Yes
 - h. Water supply to building: Six inch feed from DC water
 - i. Water supply information: Not available
19. Computer room fire protection (each location):

Location 1: Room 301
 - a. Describe suppression system(s): **None**
 - b. Detection system: **Smoke detection**
Appropriate type detectors for intended use: **Yes**
Type and manufacturer: **Simplex**
Control equipment location: **Third floor**

Control equipment manufacturer: **Simplex**

Describe connection to building fire alarm system: **Class B circuit**

c. Type of emergency lighting: **Generator powered fixtures**

d. Emergency power shutdown switches provided: **Yes**

How many and location in rooms: **Exits**

e. Fire extinguisher type (s) and number: **ABC**

f. Describe computer room enclosure (fire rating, construction and shielding): **Gypsumboard**

Location 2: Room 836

a. Describe suppression system(s): **Wet pipe sprinkler system with 9 Central Omega sprinklers**

b. Detection system: **Smoke detection**

Appropriate type detectors for intended use: **Yes**

Type and manufacturer: **Simplex**

Control equipment location: **Third floor**

Control equipment manufacturer: **Simplex**

Describe connection to building fire alarm system: **Class B circuit**

c. Type of emergency lighting: **Generator powered fixtures**

d. Emergency power shutdown switches provided: **Yes**

How many and location in rooms: **Exits**

e. Fire extinguisher type (s) and number: **ABC**

f. Describe computer room enclosure (fire rating, construction and shielding): **Gypsumboard**

20. Day Care Center: **None**

21. Smoke detectors (not computer room detectors):

a. Location (s): **Elevator Lobbies, Machine Rooms, and some areas in occupied space**

b. Appropriate type for intended use: **Yes**

c. Type and manufacturer: **Pyrotonics**

d. Control equipment location: **Elevator machine room**

e. Control equipment manufacturer: **Pyrotronics**

f. Describe connection to building fire alarm system: **Two conductor circuit**

22. Heat detectors:

a. Location(s): **Top of stairwells, electric rooms, telephone rooms, mechanical rooms, boiler room, storage areas**

b. Appropriate type for intended use: **Yes**

c. Type and manufacturer: **Fixed temperature**

d. Control equipment location:

e. Control equipment manufacturer: **Simplex**

f. Describe connection to building fire alarm system: **Class B circuit**

23. Other detectors: **None**

24. Communication features:
- a. Type of fire alarm system: **General**
 - b. Central station (company name): **Kastle**
 - c. Describe emergency telephone system: **N/A**
 - d. Describe secondary power source: **Batteries and charger**
 - e. Control panel Information:
Location: **First floor**
Manufacturer/model: **Simplex**
Operating voltage: **24VDC**
 - f. Manual station locations: **Stairs, corridors and exits**
 - g. Style of alarm initiating circuit wiring: **Unknown**
 - h. Type of alarm **notification** appliances (visual and/or audible) and locations: Bells and strobe
 - i. Style of alarm indicating circuit wiring: **Style W**
 - j. Notification system: Entire bldg., floor, above and below or other: **Entire building**
Devices that actuate general alarm (list all types): Pull stations, smoke detectors, **heat detectors** and waterflow switches.
 - k. System interfaced with:
Elevators: **Yes**
Smoke control: **Yes**
Electric door locks: **N/A**
Other (describe): **Magnetic hold open devices**
25. Emergency lighting:
- a. Type: **Florescent fixtures**
 - b. Locations: **Throughout**
 - c. Secondary power source: **Generator**
26. Exit signs:
- a. Locations: **Near stairs in corridors.**
 - b. Secondary power source: **Emergency generator**
27. Emergency generator:
- a. Power source: **Diesel fuel with 3000 gallon tank in vault at the rear of the building**
 - b. Capacity: **135kW**
 - c. Location: **roof**
28. Means of egress:
- a. Number of exits: **2 stairs**
 - b. Where do they discharge? **First floor lobby for Stair #3; protected corridor to outside for Stair #1**
 - c. Exit capacity: **283**
 - d. Exit remoteness: **70**

Maximum diagonal dimension of typical floor: **258**

Stair door separation distance: **70**

How is distance measured? **Straight line**

e. Exit access: Corridor

f. Exit enclosure: None

g. Exit discharge protection: None

h. Exit dimensions - width, tread, riser: **Stair #1 – 42”, 11”, 7”; Stair #3 – 43”, 11”, 7”**

i. Handrails: **Yes**

j. Dead ends: **Satisfactory**

k. Common paths of travel: **Satisfactory**

29. Elevator features:

a. Number of elevators: 4

b. Emergency elevator operation:

- Phase I operation (automatic and manual recall)? **Yes**

- Phase II operation (firefighter's service)? **Yes**

- Designated recall level: **First floor**

- Alternate recall level: **Second floor**

- What other alarms in building, other than elevator lobby smoke detectors, will recall elevators?

All fire alarms

c. Certificate date: **Unknown**

d. Telephone within cab? **Yes**

Who answers telephone? **Kastle**

30. Hazard of exposure buildings: Ford's Theater located 5' distant; **4 story building with mercantiles on first floor and vacant otherwise is located 12 feet away**

31. Occupant emergency plan (OEP):

a. Date of last revision/update: 1997

b. Are the persons designated in the current plan: Yes

c. Does it contain procedures to evacuate handicapped individuals? Yes

d. Fire exit drill:

Date of last exit drill: October 1998

Was drill announced: Yes

Were exiting conditions varied: No

32. Local fire department pre-fire plan: Yes

33. HVAC system design:

a. Source of heat: 2 gas/oil boilers in penthouse

b. Source of chilled water: Chillers in penthouse

- c. Location of fans: Each floor
 - d. Presence of fire dampers:
 - e. Presence of duct smoke detectors:
 - f. Return air routing: Plenum
 - g. Supply air routing: Ducted
 - h. Smoke control features: **None**
 - i. Rated cable if used in plenum? **Unknown**
34. Maintenance of fire protection equipment.
- a. Report the general condition of the equipment as to whether maintenance records and frequency conform to appropriate NFPA Standards:
 - Fire extinguishers - **Good**
 - Fire alarm - **Fair**
 - Sprinklers - **Fair**
 - Emergency Lighting - **Good**
 - b. Who maintains which types of equipment:
 - Fire extinguishers – **Ace Fire Extinguisher Service, Inc.**
 - Fire alarm – **Grinnell Fire Protection**
 - Sprinklers - **Grinnell Fire Protection**
 - Emergency Lighting – **Lerch Bates**
35. Boiler inspection:
- a. Certificate(s) (who inspected?): **Hurley**
 - b. Date(s): **June 1994**
36. Locations of other special occupancies:
- a. Laboratories: None
 - b. Printing plants: None
 - c. Parking garages: **B1 level – 150 vehicles**
 - d. Storage areas > 1000 square feet: None
 - e. Telephone frame rooms: None
 - f. Other (describe): **3,000 gallon diesel tank on the basement parking level (for emergency generator) and one 50 gallon day tank for emergency generator (located on roof).**
37. Interior Construction:
- a. Corridor/Room separation as defined by NFPA 101M: **Smoke resistive with door closer devices.**
 - b. Describe predominant interior wall finish and estimated flame spread rating:

c. Describe predominant ceiling finish and estimated flame spread rating:

Facility Safety and Health, Environmental Management Information

General Safety and Health Documentation

38. Check applicable areas:

- a. Asbestos ()
- b. PCBs ()
- c. Confined Spaces ()
- d. Battery Charging ()
- e. Laboratories ()
- f. X-Ray Equipment ()
- g. Indoor Firing Ranges ()
- h. Significant Hazmat Storage ()
- i. Photo Processing ()
- j. Incinerators ()
- k. Printing Plants ()
- l. Significant Noise ()
- m. Other-Specify ()

Details of Special Occupancies

39. Battery charging: None

a. Adequacy of ventilation: N/A

b. Eye wash protection: N/A

40. Other special occupancies: Yes

a. Laboratories: None

b. Printing plants: None

c. Parking garages: There is a one level parking garage area under the building. It has both an air supply and an exhaust system.

41. Noise and Vibration: None in government office spaces. Chillers in the mechanical room space have potential noise.

a. Location(s): The mechanical rooms which are off limits to the government tenants have high noise levels when chillers are in operation.

b. Protection provided: No

c. Standards compliance: Not applicable

42. OSHA standards compliance: Good for the government spaces, except for carpeting.

43. Motor pool service areas: None

44. X-ray equipment and other radiation-producing or storage areas: None

45. Indoor target ranges: None

46. Warehouses or areas storing hazardous materials: None observed at the time of the survey.

47. Photo processing or graphic arts facilities: None

48. Incinerators (and note compliance per local/state codes and EPA regulations): None

49. Printing plants: None

50. Spray-painting operations: None

51. Posting of hazardous areas requiring PPE; i.e., foot, head, eye, hearing, respirator: None

52. Storage area for firearms, ammunition, explosives: None

53. Communications equipment, roof-mounted antennas: Yes

Environmental Management

54. Environmental Pollution Control Equipment: None
- a. Wastewater Treatment Facilities: None, are connected to the Washington Sanitary Sewer System
 - b. Air Emission Control Devices: None
 - c. Incinerators: None
55. Areas of the Building Where Asbestos Containing Materials (ACM): None, building is supposed to be free of all asbestos. None was observed during the survey.
- a. Sprayed-on or Troweled-on Surfacing Material: N/A
 - b. Thermal System Insulation: Yes
 - c. Other Types of ACM: N/A
 - d. If a-c = Yes Comment on Asbestos Management Plan: N/A
56. Transformer Vaults: None in the building. Public utility company (**PEPCO**) controls transformers under the walk outside of the building.
- a. Location: N/A
 - b. Labeling: N/A
 - c. Diking: N/A
 - d. Decontamination: N/A
57. Laboratories and Other Special Occupancies: None
- a. Location: N/A
 - b. Hoods, Vents: N/A
 - c. Disposal Practices: N/A
58. Storage Areas for Hazardous and Toxic Materials: None
- a. Location: N/A
 - b. Compatible Storage: N/A
 - c. Spill Control Dikes: N/A
 - d. Response Equipment: N/A
59. Hazardous Waste Management Activities: None
- a. Generation: N/A
 - b. Temporary Storage Areas: N/A
 - c. Spill Control/Dikes: N/A
 - d. Response Equipment: N/A

60. Potable Water Treatment Equipment: None. Neither filter or pass water through ionization columns.

61. Solid Waste Management Facilities: None

62. Petroleum, Oil and Lubricant Storage: **Yes, 3000 gallons of diesel fuel.**

a. Location(s)/Amount: **Outside of building. Under ground in the alley next to the building.**

b. Spill Control/Dikes: N/A

c. Response Equipment: N/A

d. Underground Storage Tanks: **Yes, see above**

Indoor Air Quality

63. Indoor Air:

- a. Heat is obtained from: Two natural gas low pressure hot water boilers in the basement mechanical area. The hot water supports the heating coils in the two air handling units on the 9th floor and the fan coil units located on the outer walls of the office areas on every other floor of the building.
- b. Cooling Air is obtained from: Two chiller units located in the mechanical room in the basement mechanical room supported by three cooling towers also on the roof provide chilled water to the coils in all of the air handling units and to the fan coil units located on the outer walls of the office areas on each floor of the building.
- c. Air is circulated by: The two air handler units located on each floor duct conditioned air into the core office spaces and elevator lobbies. In addition, the fan coil perimeter units have fans in them which take office air, pass it by the fan coils and then blows air back into the office space.
- d. Location and size of Building Air Intakes: Outside air is brought into the building by two air intakes located on the roof of the building. These intakes each support one side of the building. This air is then ducted down a chase to the air handlers on each floor.
- e. Potential Contamination Sources of Outside Air: The air intakes are located on the opposite side of the roof and well away from the cooling tower. The roof was clean and dry and no nearby sources of contamination were noted.
- f. Location of cooling tower: The towers are located on the roof.
- g. Control of biological agents in cooling tower: Biocides added through automatic metering system. Water is tested monthly by a contractor .
- h. Adequacy of air movement based on observation and CO2 levels: All readings taken were below the GSA action level of 1000 ppm, **ranging from 627-812 ppm, which indicates good air exchange.**
- i. Local exhaust systems: Bathrooms exhaust systems are routed to the roof.
- j. Areas of Complaints: None
- k. Activities Generating Contaminants: None noted.
- l. Filter Maintenance: Filters in the air handler units are changed quarterly and were in good condition. Filters are fiber mesh material. The fan coil units also have filters in them which are changed every 6 months.

Layout sketch

APPENDIX C

FSES ANALYSIS AND TABLES

FIRE SAFETY EVALUATION SYSTEM

The Fire Safety Evaluation System (FSES) Analysis presented in this report follows the approach outlined in NFPA 101A, Alternate Approaches to Life Safety. NFPA 101A stipulates that the FSES must take into consideration any deficiencies in systems. If the system does not meet the applicable standards listed in Chapter 8 of 101A, then credit can not be given in the initial evaluation.

The evaluation can be based on the entire building. However, portions of the building may also be evaluated as zones. A zone must be one or more complete fire or smoke zones and must meet other criteria as presented in the methodology. For this analysis the building was evaluated up to the **9th** floor since this is to be the highest level occupied by the Federal Government. The Safety Parameters, justification for their selection and their values as defined in Table 7-1 of NFPA 101A are as follows:

1. Construction - Safety Parameter value = 2
Building is considered 9 stories in height and of construction Type II(222).
2. Segregation of hazards - Safety Parameter value = 0
There were no findings identified concerning segregation of hazards.
3. Vertical openings - Safety Parameter value = 1
Stairwells, elevator shafts and air shafts are 2 hour rated.
4. Sprinklers - Safety Parameter value = 0
The building is not fully sprinklered..
5. Fire alarm system - Safety Parameter value = 1
A manual fire alarm system is installed for the building and is provided with fire department notification by a central station
6. Smoke detection - Safety Parameter value = 0
The smoke detection provided does not qualify for this credit.
7. Interior finish - Safety Parameter value = 2
Interior finish is painted gypsum. This results in a flame spread rating of 25 or less.
8. Smoke control - Safety Parameter value = **0**
No engineered smoke control system is provided
9. Exit access - Safety Parameter value = **0**
No dead ends in excess of 50 feet and travel distance is between **100** and **200** feet.

10. Exit system - Safety Parameter value = -2
The exit system is considered deficient as **Stair #3** discharges to an unprotected lobby.
11. Corridor/room separation - Safety Parameter value = 1
Separation between corridors and offices is non rated gypsum partitions with self closing doors. This is considered smoke resistive.
12. Emergency preparedness - Safety Parameter value = 1
There is an OEP and drills are conducted annually.

FSES Tables

FSES Tables

FSES Tables

FSES Tables

APPENDIX D

GSA FORM 3559

[There were no RAC 1, 2, or 3 Findings]